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Mineral Industry Surveys

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FLUORSPAR IN THE THIRD QUARTER 2005

Reported fluorspar consumption in the third quarter was 145,000 metric tons (t), a decrease of about 8% when compared with the figure for the previous quarter and a decrease of about 5% compared with the figure for the third quarter of 2004. Consumption of fluorspar for hydrofluoric acid (HF) and aluminum fluoride (AlF_3) was 127,000 t, a decrease of about 7% when compared with the figure for the previous quarter and a decrease of about 4% when compared with the figure for the third quarter of 2004. Imports of fluorspar were 153,000 t, an increase of about 19% compared with the previous quarter, and a 7% increase compared with the third quarter of 2004.

Defense Stockpile

On November 10, the Defense National Stockpile Center (DNSC) announced the award of 10,493 short dry tons (SDT) of metallurgical-grade fluorspar to Oxbow Carbon and Minerals LLC for a sales value of $619,937 (Ringquist, 2005). As of November 30, 2005, the remaining unsold fluorspar in the Defense Stockpile consists of 5,236 SDT of acid grade and 33,596 SDT of metallurgical grade. The DNSC also reported that, as of November 30, about 78,700 SDT of fluorspar had been sold pending shipment.

Industry News

China's Ministry of Commerce issued a release in October that provided the 2006 export quotas for various agricultural, industrial, and textile commodities. This announcement included an export quota of 710,000 t of fluorspar for 2006. This is a further reduction in the announced fluorspar quota, which had been set at 750,000 t in 2004 and 2005, but which had been as high as 1.2 million metric tons in 2000 (Beijing Antaike Information Development Co., Ltd., 2005).

The European Union's antidumping duties on imports of Chinese fluorspar expired on September 27, 2005. The duties, in the form of a minimum import price of €113.50 per metric ton, had been in place since the mid-1990s. Owing to the decrease in fluorspar exports from China and the significant increase in prices, fluorspar producers in Europe offered no objection to the expiration of the antidumping duties (Industrial Minerals, 2005a).

Industrial Minerals magazine in association with the China Chamber of Commerce of Metals, Minerals and Chemicals Importers and Exporters held the Fluorspar 05 Conference in Shanghai, China, on September 20-22. The program covered a wide range of topics on fluorspar and fluorochemicals, but of particular interest were the two sessions devoted to current and future developments in the Chinese fluorine industry (Industrial Minerals, 2005b). Industrial Minerals expects to release the proceedings of the conference for sale in early 2006.

Fluorochemical News

South Africa is conducting a feasibility study on the construction of a 30,000- to 50,000-metric-ton-per-year (t/yr) HF and AlF_3 plant. The study is being funded by a consortium that includes the Government, and private, local, and international investors. Completion of the study is expected in the middle of 2006. About 60% of the plant's production would be consumed by South African industries producing aluminum, stainless steel, and petrochemicals. In addition, the HF could be feedstock for future refrigeration and fluorochemical industries. Exports would account for 40% of production as AlF_3, HF, or downstream fluorochemicals. With large fluorspar reserves, South Africa could easily expand mine capacity to supply such a plant and maintain current export levels (Venter, 2005§[1]).

The water fluoridation chemical, fluorosilicic acid (FSA), which is produced as a byproduct of phosphoric acid production in Florida, Louisiana, and North Carolina, has recently been in short supply. The shutdown of U.S. Agri-Chemical Corp.'s Fort Meade, FL, phosphate fertilizer plant coupled with increased demand for FSA for water fluoridation (especially in California) have been the causes. Some municipalities have had to scramble to locate new supplies, and when found have been required to pay higher prices (McCoy, 2005). In the short term, unless other current producers of FSA such as The Mosaic Co. and PCS Phosphate Co. increase their production, additional demand will likely be met by FSA imports from Mexico.

[1]A reference that includes a section mark (§) is found in the Internet Reference Cited section.

Additional domestic supplies of FSA are expected in 2006 when J.R. Simplot Co. begins production and distribution of FSA from its phosphate fertilizer plant in Rock Springs, WY. Initial plans call for production of 13,600 t/yr, but future expansions could double production to around 27,000 t/yr. Output from the Rock Springs plant is expected to supply the municipal water fluoridation markets in the Western United States (Green Markets, 2005).

References Cited

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TABLE 1

SALIENT FLUORSPAR STATISTICS[1]

(Metric tons, unless otherwise specified)

	2004		2005			
	Third quarter	Fourth quarter	First quarter	Second quarter	Third quarter	Year to date
Imports for consumption:	143,000	129,000	227,000	129,000	153,000	509,000
Average value per ton, c.i.f U.S. port, acid grade	$170	$155	$189	$174	$195	$187
Average value per ton, c.i.f. U.S. port, metallurgical	$81	$83	$91	$95	$92	$93
Exports	4,670	4,050	5,480	6,060	20,100	31,700
End of quarter stocks, consumer	93,400	75,200	130,000	95,300 [r]	109,000	XX
Fluorspar equivalent of imported hydrofluoric acid	47,900	52,200	53,600	50,700	48,400	153,000
Fluorspar equivalent of imported cryolite	1,080	943	1,100	1,110	809	3,020
Quarterly reported fluorspar consumption	152,000	134,000	160,000	157,000	145,000	463,000

[r]Revised. XX Not applicable.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 2

CONSUMPTION OF FLUORSPAR BY END USE AND ASSAY RANGE[1]

(DOMESTIC AND FOREIGN IN THE UNITED STATES)

(Metric tons)

End use or product	First quarter 2004: More than 97% calcium fluoride	First quarter 2004: Not more than 97% calcium fluoride	First quarter 2004: Total	Second quarter 2004: More than 97% calcium fluoride	Second quarter 2004: Not more than 97% calcium fluoride	Second quarter 2004: Total
Hydrofluoric acid and aluminum fluoride	140,000	--	140,000	150,000	--	150,000
Metallurgical	4,150	9,850	14,000	4,890	9,280	14,200
Other uses or products[2]	6,600	--	6,600	7,280	--	7,280
Total	151,000	9,850	161,000	162,000	9,280	171,000
Stocks, end of quarter[3]	147,000	26,600	173,000	76,300	25,900	102,000

End use or product	Third quarter 2004: More than 97% calcium fluoride	Third quarter 2004: Not more than 97% calcium fluoride	Third quarter 2004: Total	Fourth quarter 2004: More than 97% calcium fluoride	Fourth quarter 2004: Not more than 97% calcium fluoride	Fourth quarter 2004: Total
Hydrofluoric acid and aluminum fluoride	132,000	--	132,000	110,000 r	--	110,000
Metallurgical	4,670	8,340	13,000	6,670	11,900	18,600
Other uses or products[2]	7,510	--	7,510	4,990	--	4,990
Total	144,000	8,340	152,000	122,000 r	11,900	134,000
Stocks, end of quarter[3]	72,100	21,300	93,400	59,500	15,700	75,200

End use or product	First quarter 2005: More than 97% calcium fluoride	First quarter 2005: Not more than 97% calcium fluoride	First quarter 2005: Total	Second quarter 2005: More than 97% calcium fluoride	Second quarter 2005: Not more than 97% calcium fluoride	Second quarter 2005: Total
Hydrofluoric acid and aluminum fluoride	139,000	--	139,000	136,000	--	136,000
Metallurgical	6,710	8,700	15,400	4,240	10,100	14,300
Other uses or products[2]	5,140	--	5,140	7,250	--	7,250
Total	151,000	8,700	160,000	147,000	10,100	157,000
Stocks, end of quarter[3]	116,000	13,700	130,000	87,300 r	8,010	95,300 r

End use or product	Third quarter 2005: More than 97% calcium fluoride	Third quarter 2005: Not more than 97% calcium fluoride	Third quarter 2005: Total	2005 Year to date
Hydrofluoric acid and aluminum fluoride	127,000	--	127,000	402,000
Metallurgical	4,290	6,940	11,200	40,900
Other uses or products[2]	7,200	--	7,200	19,600
Total	138,000	6,940	145,000	463,000
Stocks, end of quarter[3]	98,000	10,800	109,000	XX

[r]Revised. XX Not applicable. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes acid grade used in enamel, glass and fiberglass, steel castings, and welding rod coatings.

[3]Stocks include distributor stocks (excluding National Defense Stockpile holdings) and consumer stocks for hydrofluoric acid and aluminum fluoride.

TABLE 3

U.S. IMPORTS FOR CONSUMPTION OF FLUORSPAR, BY COUNTRY AND VALUE[1,2]

	2004				2005							
	Third quarter		Fourth quarter		First quarter		Second quarter		Third quarter		Total	
	Quantity (metric tons)	Value[3] (thousands)	Quantity (metric tons)	Value[3] (thousands)	Quantity First quarter	Value[3] (thousands)	Quantity (metric tons)	Value[3] (thousands)	Quantity (metric tons)	Value[3] (thousands)	Quantity (metric tons)	Value[3] (thousands)
Containing more than 97% calcium fluoride:												
China	104,000	$18,200	31,800	$5,380	168,000	$33,000	89,700	$15,600	97,400	$20,000	355,000	$68,600
France	44	16	22	8	39	21	--	--	--	--	39	21
Germany	--	--	--	--	19	9	--	--	--	--	19	9
Mexico	17,900	2,900	18,100	2,960	12,200	1,790	10,400	1,780	13,700	2,420	36,300	5,990
Mongolia	10,800	1,570	24,900	3,910	10,100	1,650	8,860	1,490	10,100	1,550	29,100	4,690
South Africa	6,000	707	32,100	4,380	24,600	3,980	9,870	1,860	22,400	4,050	56,800	9,890
United Kingdom	9	17	507	60	--	--	--	--	1	3	1	3
Total	138,000	23,400	108,000	16,700	215,000	40,500	119,000	20,700	144,000	28,000	477,000	89,200
Containing not more than 97% calcium fluoride:												
Canada	--	--	6	2	34	12	41	17	--	--	75	29
Mexico	4,840	392	21,700	1,800	12,400	1,110	10,600	1,000	9,020	828	32,000	2,940
Other	--	--	--	--	--	--	--	--	--	--	--	--
Total	4,840	392	21,700	1,800	12,400	1,130	10,700	1,020	9,020	828	32,100	2,970
Grand total	143,000	23,800	129,000	18,500	227,000	41,600	129,000	21,700	153,000	28,900	509,000	92,200

-- Zero.

[1]Imports for consumption include imports of immediate entry, and warehouse withdrawals.

[2]Data are rounded to no more than three significant digits; may not add to totals shown.

[3]Cost, insurance, and freight at U.S. ports.

Source: U.S. Census Bureau.

TABLE 4

IMPORTS FOR CONSUMPTION OF HYDROFLUORIC ACID[1]

	2004				2005							
	Third quarter		Fourth quarter		First quarter		Second quarter		Third quarter		Total	
	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)
Canada	13,200	$13,700	10,700	$11,000	11,100	$11,900	9,750	$10,500	12,100	$12,600	32,900	$35,000
China	261	198	59	55	234	169	270	177	257	161	761	507
Germany	61	139	91	193	61	168	77	165	105	223	242	556
Japan	420	1,000	391	961	333	822	293	720	227	543	854	2,090
Mexico	17,900	17,400	23,400	22,600	23,700	22,600	23,300	22,300	19,500	18,500	66,600	63,400
Other[3]	67	165	128	314	287	298	122	283	80	246	489	827
Total	31,900	32,500	34,800	35,100	35,700	36,000	33,800	34,200	32,300	32,300	102,000	102,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Cost, insurance, and freight at U.S. ports.

[3]Includes India, Italy, the Republic of Korea, the Netherlands, Singapore, Switzerland, and Taiwan.

Source: U.S. Census Bureau.